
Sequence Listing was accepted.

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Application No: 10552287 Version No: 5.0

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Leu Leu Leu Thr Leu Gln Pro Glu Gln Lys Phe Gln Lys Val Lys Gly

75

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Gly	Ile	Gly 115	Tyr	Asn	Ile	Ile	Arg 120	Val	Pro	Met	Ala	Ser 125	Суз	Asp	Phe
Ser	Ile 130	Arg	Thr	Tyr	Thr	Tyr 135	Ala	Asp	Thr	Pro	Asp 140	Asp	Phe	Gln	Leu
His 145	Asn	Phe	Ser	Leu	Pro 150	Glu	Glu	Asp	Thr	Lys 155	Leu	Lys	Ile	Pro	Leu 160
Ile	His	Arg	Ala	Leu 165	Gln	Leu	Ala	Gln	Arg 170	Pro	Val	Ser	Leu	Leu 175	Ala
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Gly	Lys	Gly 195	Ser	Leu	Lys	Gly	Gln 200	Pro	Gly	Asp	Ile	Tyr 205	His	Gln	Thr
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	Asp		260					265					270		
	His	275					280					285			
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Val His Gly Ile Ala Val His Trp Tyr Leu Asp Phe Leu Ala Pro Ala 305 310 315 320 Lys Ala Thr Leu Gly Glu Thr His Arg Leu Phe Pro Asn Thr Met Leu 325 330 335 Phe Ala Ser Glu Ala Cys Val Gly Ser Lys Phe Trp Glu Gln Ser Val 340 345 350 Arg Leu Gly Ser Trp Asp Arg Gly Met Gln Tyr Ser His Ser Ile Ile 360 Thr Asn Leu Leu Tyr His Val Val Gly Trp Thr Asp Trp Asn Leu Ala 370 375 380 Leu Asn Pro Glu Gly Gly Pro Asn Trp Val Arg Asn Phe Val Asp Ser 385 390 395 400 Pro Ile Ile Val Asp Ile Thr Lys Asp Thr Phe Tyr Lys Gln Pro Met 405 410 415 Phe Tyr His Leu Gly His Phe Ser Lys Phe Ile Pro Glu Gly Ser Gln 420 425 430 Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala 435 440 445 Leu Met Asn Pro Asp Gly Ser Ala Val Val Val Leu Asn Arg Ser 450 455 460 Ser Lys Asp Val Pro Leu Thr Ile Lys Asp Pro Ala Val Gly Phe Leu 470 465 475 480 Glu Thr Ile Ser Pro Gly Tyr Ser Ile His Thr Tyr Leu Trp His Arg

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180 185 190

Gly Lys Gly Ser Leu Lys Gly Gln Pro Gly Asp Ile Tyr His Gln Thr

195 200 205

Trp Ala Arg Tyr Phe Val Lys Phe Leu Asp Ala Tyr Ala Glu His Lys 210 215 Leu Gln Phe Trp Ala Val Thr Ala Glu Asn Glu Pro Ser Ala Gly Leu 230 235 Leu Ser Gly Tyr Pro Phe Gln Cys Leu Gly Phe Thr Pro Glu His Gln 245 250 255 Arg Asp Phe Ile Ala Arg Asp Leu Gly Pro Thr Leu Ala Asn Ser Thr 260 265 270 His His Asn Val Arg Leu Leu Met Leu Asp Asp Gln Arg Leu Leu Leu 275 280 285 Pro His Trp Ala Lys Val Val Leu Thr Asp Pro Glu Ala Ala Lys Tyr 290 295 300 Val His Gly Ile Ala Val His Trp Tyr Leu Asp Phe Leu Ala Pro Ala 310 315 Lys Ala Thr Leu Gly Glu Thr His Arg Leu Phe Pro Asn Thr Met Leu 325 330 Phe Ala Ser Glu Ala Cys Val Gly Ser Lys Phe Trp Glu Gln Ser Val 345 340 350 Arg Leu Gly Ser Trp Asp Arg Gly Met Gln Tyr Ser His Ser Ile Ile 355 360 365 Thr Ser Leu Leu Tyr His Val Val Gly Trp Thr Asp Trp Asn Leu Ala 370 375 380 Leu Asn Pro Glu Gly Gly Pro Asn Trp Val Arg Asn Phe Val Asp Ser 385 390 395 400 Pro Ile Ile Val Asp Ile Thr Lys Asp Thr Phe Tyr Lys Gln Pro Met 410 405

Phe Tyr His Leu Gly His Phe Ser Lys Phe Ile Pro Glu Gly Ser Gln

425

430

Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala 440 Leu Met Asn Pro Asp Gly Ser Ala Val Val Val Leu Asn Arg Ser 455 Ser Lys Asp Val Pro Leu Thr Ile Lys Asp Pro Ala Val Gly Phe Leu 465 470 475 480 Glu Thr Ile Ser Pro Gly Tyr Ser Ile His Thr Tyr Leu Trp His Arg 485 490 Gln <210> 3 <211> 497 <212> PRT <213> Homo sapiens <220> <221> misc_feature <222> (394)..(394) <223> Val to Leu mutant <400> 3 Ala Arg Pro Cys Ile Pro Lys Ser Phe Gly Tyr Ser Ser Val Val Cys 5 10 15 Val Cys Asn Ala Thr Tyr Cys Asp Ser Phe Asp Pro Pro Thr Phe Pro 20 25 30 Ala Leu Gly Thr Phe Ser Arg Tyr Glu Ser Thr Arg Ser Gly Arg Arg 35 40 Met Glu Leu Ser Met Gly Pro Ile Gln Ala Asn His Thr Gly Thr Gly 50 55 60 Leu Leu Leu Thr Leu Gln Pro Glu Gln Lys Phe Gln Lys Val Lys Gly 65 70 75

Phe Gly Gly Ala Met Thr Asp Ala Ala Ala Leu Asn Ile Leu Ala Leu

90

95

Ser Pro	Pro Ala 100	Gln Asn	Leu	Leu	Leu 105	Lys	Ser	Tyr	Phe	Ser 110	Glu	Glu
Gly Ile	Gly Tyr 115	Asn Ile	Ile	Arg 120	Val	Pro	Met	Ala	Ser 125	Суз	Asp	Phe
Ser Ile 130	Arg Thr	Tyr Thr	Tyr 135	Ala	Asp	Thr	Pro	Asp 140	Asp	Phe	Gln	Leu
His Asn 145	Phe Ser	Leu Pro	Glu	Glu	Asp	Thr	Lys 155	Leu	Lys	Ile	Pro	Leu 160
Ile His	Arg Ala	Leu Gln 165	Leu	Ala	Gln	Arg 170	Pro	Val	Ser	Leu	Leu 175	Ala
Ser Pro	Trp Thr 180	Ser Pro	Thr	Trp	Leu 185	Lys	Thr	Asn	Gly	Ala 190	Val	Asn
Gly Lys	Gly Ser 195	Leu Lys	Gly	Gln 200	Pro	Gly	Asp	Ile	Tyr 205	His	Gln	Thr
Trp Ala 210	Arg Tyr	Phe Val	Lys 215	Phe	Leu	Asp	Ala	Tyr 220	Ala	Glu	His	Lys
Leu Gln 225	Phe Trp	Ala Val	Thr	Ala	Glu	Asn	Glu 235	Pro	Ser	Ala	Gly	Leu 240
Leu Ser	Gly Tyr	Pro Phe	Gln	Cys	Leu	Gly 250	Phe	Thr	Pro	Glu	His 255	Gln
Arg Asp	Phe Ile 260	Ala Arg	Asp	Leu	Gly 265	Pro	Thr	Leu	Ala	Asn 270	Ser	Thr
His His	Asn Val 275	Arg Leu	Leu	Met 280	Leu	Asp	Asp	Gln	Arg 285	Leu	Leu	Leu
Pro His 290	Trp Ala	Lys Val	Val 295	Leu	Thr	Asp	Pro	Glu 300	Ala	Ala	Lys	Tyr
Val His 305	Gly Ile	Ala Val	His	Trp	Tyr	Leu	Asp 315	Phe	Leu	Ala	Pro	Ala 320

Lys Ala Thr Leu Gly Glu Thr His Arg Leu Phe Pro Asn Thr Met Leu 325 330 335

Phe Ala Ser Glu Ala Cys Val Gly Ser Lys Phe Trp Glu Gln Ser Val 340 345 350

Arg Leu Gly Ser Trp Asp Arg Gly Met Gln Tyr Ser His Ser Ile Ile 355 360 365

Thr Asn Leu Leu Tyr His Val Val Gly Trp Thr Asp Trp Asn Leu Ala 370 375 380

Leu Asn Pro Glu Gly Gly Pro Asn Trp Leu Arg Asn Phe Val Asp Ser 385 390 395 400

Pro Ile Ile Val Asp Ile Thr Lys Asp Thr Phe Tyr Lys Gln Pro Met \$405\$ \$410\$ \$415\$

Phe Tyr His Leu Gly His Phe Ser Lys Phe Ile Pro Glu Gly Ser Gln 420 425 430

Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala 435 440 445

Leu Met Asn Pro Asp Gly Ser Ala Val Val Val Leu Asn Arg Ser 450 455 460

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   35 40
Met Glu Leu Ser Met Gly Pro Ile Gln Ala Asn His Thr Gly Thr Gly
Leu Leu Thr Leu Gln Pro Glu Gln Lys Phe Gln Lys Val Lys Gly
Phe Gly Gly Ala Met Thr Asp Ala Ala Leu Asn Ile Leu Ala Leu
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           85
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       100 105 110
Gly Ile Gly Tyr Asn Ile Ile Arg Val Pro Met Ala Ser Cys Asp Phe
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Ser Ile Arg Thr Tyr Thr Tyr Ala Asp Thr Pro Asp Asp Phe Gln Leu
  130 135 140
His Asn Phe Ser Leu Pro Glu Glu Asp Thr Lys Leu Lys Ile Pro Leu
145 150 155 160
Ile His Arg Ala Leu Gln Leu Ala Gln Arg Pro Val Ser Leu Leu Ala
           165
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Ser Pro Trp Thr Ser Pro Thr Trp Leu Lys Thr Asn Gly Ala Val Asn
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180 185 190

Gly Lys Gly Ser Leu Lys Gly Gln Pro Gly Asp Ile Tyr His Gln Thr 195 200 205

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Leu 225	Gln	Phe	Trp	Ala	Val 230	Thr	Ala	Glu	Asn	Glu 235	Pro	Ser	Ala	Gly	Leu 240
Leu	Ser	Gly	Tyr	Pro 245	Phe	Gln	Cys	Leu	Gly 250	Phe	Thr	Pro	Glu	His 255	Gln
			260		Arg			265					270		
		275			Leu		280					285			
	290				Val	295					300				
305					310 Glu					315					320
				325	Cys				330					335	
			340		Asp			345	_				350		
		355			His		360					365			
Leu	370 Asn	Pro	Glu	Gly	Gly	375 Pro	Asn	Trp	Val	Arg	380 Asn	Phe	Val	Asp	Ser
385 Pro	Ile	Ile	Val	Asp	390 Ile	Thr	Lys	His	Thr	395 Phe	Tyr	Lys	Gln	Pro	400 Met
Phe	Tyr	His	Leu	405 Gly	His	Phe	Ser	Lys	410 Phe	Ile	Pro	Glu	Gly	415 Ser	Gln
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Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala

435 440 445

Leu Met Asn Pro Asp Gly Ser Ala Val Val Val Leu Asn Arg Ser 450 455 460

Ser Lys Asp Val Pro Leu Thr Ile Lys Asp Pro Ala Val Gly Phe Leu 465 470 475 480

Glu Thr Ile Ser Pro Gly Tyr Ser Ile His Thr Tyr Leu Trp His Arg \$485\$